

NOTES ON CICINDELA PLUTONICA CASEY WITH  
DESCRIPTION OF A NEW SUBSPECIES

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The accumulation of a number of specimens of *Cicindela plutonica* Csy. of both sexes, has made it possible for me to study the species and a limited number of its variations and to conclude that it is a valid species. Dr. Walther Horn (Genera Insectorum, fasc. 82c, p. 376) places this species as a subspecies of *Cicindela tranquebarica* Hbst. and lists it following the subspecies *sierra* Leng. It is my opinion that *C. plutonica* is a valid species and should be placed in the phylogenetic scheme following *C. tranquebarica* Hbst. and its subspecies, and preceding *C. longilabris* Say as listed by C. W. Leng (1920). In what is to follow I will substantiate my conclusion with the evidence before me.

When T. L. Casey described the species in 1897 he had one male specimen on which he based his description. Since that time several females have been taken which show that the species exhibits a remarkable degree of sexual dimorphism. This feature supported by the structural differences, to be pointed out later, along with its ecological peculiarities show that the species is of specific value.

## CICINDELA PLUTONICA Casey

(Ann. N. Y. Acad. Sci., IX, p. 296, 1897)

Male. Form nearly as in *C. tranquebarica* subsp. *sierra* Leng, but more elongate; rugosity of head, prothorax and elytra much less granulate; labrum shorter and more flattened with the median lobe much less pronounced, pale in color with fine dark apical margin, imperfectly three toothed. Head similar to subsp. *sierra* but with the rugosity reduced. Elytra more elongate and parallel with distinct subsutural row of foveæ, interhumeral impression at base deep; sculpturing less granulate than in *sierra*. Elytral markings consist of an indication of the transverse portion of the middle band and a subsutural remnant of the apical lunule. Color black. Length 13-13.5 mm.; width 4.5-5.2 mm.

Female. Form parallel and elongate as in male but more robust, and distinctly convex. Labrum varying as to color but distinctly three toothed, longer and more pointed in median portion. Elytral markings in the two specimens before me consists of a subsutural remnant of the apical lunule; sculpturing same as in male. Length 15.5-16 mm.; width 5.5-6 mm.

Habitat Summit, Calif. and Placer Co., Calif., June 25, 1898,

4 males (Koebele); Alpine, Oregon, June 27, 1892, in the C. W. Leng collection, 1 female; Alpine Co., Calif., July 1934 by J. E. Blum, 1 female; Nevada.

The distribution of this species is alpine, it occurs from 9,000 to 10,000 feet on the rocky hillsides in the vicinity of the snow pools. It is very wary and fast in flight, its dark color making it very difficult to distinguish from the black mountain soil.

From the above description it is evident that the male, although superficially similar, is distinct from that of *C. sierra* in most of its basic characters and the female, being very convex and parallel, could not possibly be associated with any member of the *tranquebarica* group. These structural facts supported by the distinct ecological differences that exist, in that *sierra* occurs in the high valleys along the grassy stream banks at 6,000 to 8,000 feet whereas *plutonica* occurs on the rocky hillsides about the snow pools from 9,000 to 10,000 feet, lead me to regard *C. plutonica* as a distinct species.

This species can be associated with *C. longilabris* subsp. *montana* Lec. in that the female is convex, labrum long and pointed as in the members of the *longilabris* group and the two species occupy very similar ecological habitats. J. E. Blum collected several specimens of the subsp. *montana* Lec. in the same locality with *C. plutonica* in July 1934, in Alpine Co., California.

#### *Cicindela plutonica leachi* Cazier, new subspecies

Female. Form as in the female of *C. plutonica* but more convex. Color green with purple reflections, shiny; underside brilliant green. Elytral markings lacking. Labrum longer, more pointed in the median portion, distinctly three toothed, brownish black to black in color. Sculpturing of head, prothorax and elytra more reduced than in *plutonica*. Length 15 mm.; width 6 mm.

Habitat. Occurs at high elevations, 9,000 to 10,000 feet, in the Warner Mts., Modoc Co., Calif. (June 29, 1931). Holotype female in the author's collection.

It is with great pleasure that I dedicate this distinct subspecies to Mr. E. R. Leach who very kindly presented the specimen to me for study. I am greatly indebted to Mr. J. E. Blum and Mr. E. R. Leach for specimens and notes and more especially to Dr. E. C. Van Dyke for his valuable assistance and constructive criticisms.